the information is true, accurate, and complete

Signature

State of West Virginia

Department of Environmental Protection

NOV 0 6 2012

DATE:

API No: 47-001-03247H

Lease No: 70640;70642;070943;07094

	W	Office of Oil as ell Operator's Report		rk		
arm Name:	BENNETT, JERE E. DOLETTA BEI	MY & BRANDY & NNETT, ET AL	Operator W	/ell No. PI	IL4AHS (40	5153)
LOCATION	I: Elevation: 1514'		Qu	adrangle: <u>P</u>	hilippi	
Dis	strict: Pleasant		County	: Barbour	•	
		Feet South of: 39	•		00 Sec.	
	tude: 20,324		_		00 Sec.	
Longi	tude: 2,535	Feet West of: 80	Deg0			
Company	: CNX Gas Compa	ny LLC				
			Casing and	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address:	P.O. Box 1248		Tubing	arming		up Cu. Fi.
Aum cas.	Jane Lew, WV 263	78				
Agent:	Kent Wright					
	Bryan Harris					
Date Perm	nit Issued: 06	/30/2011			ļ	
Date Well	Work Commenced:	11/03/2011	20"	40'	40'	Grouted In
	Work Completed:	07/22/2012	ļ			160 :
Verbal Plu			13 3/8"	613'	613'	460 sks
	nission granted on:			20501	00531	715 also
Rotary	Cable	Rig X	9 5/8"	2053'	2053'	715 sks
		7644'	5.100	145401	14540'	3031 sks
	asured Depth (feet):		5 1/2"	14540'	14340	3031 SKS
	ter Depth (ft.): 50', 3			<del>                                     </del>	<del></del>	<del>                                     </del>
		<u>√A</u> <b>Y</b> )?: No	<del>                                     </del>	<del> </del>		
	<u>ing mined in area (N/</u> ths (ft.):N/A	1):: 110		<del> </del>		
	acountered (N/Y) Dej	+th(a)	·			<del> </del>
<u> </u>	OW DATA	ELLUS			ne depth (ft) <u>7</u>	756'-14540'
	nitial production ——	4 600	TF/d	Oil: Initia	al open flow	* Bbl/d
	inal open flow		Tr/d	Fina	al open flow_	*Bbl/d
T	Time of open flow bety	veen initial and final te				8.5 Hour
	Flowing Pressure	4050		(surface pro	essure) after	386 Hour
					- 14h (64)	
	Producing formation		CEIA		e depth (ft)	+ Divi
Gas: In	itial open flow		CF/d CF/d	Oil: Initia	l open flow	* Bbl/d
Gas: Ini	itial open flow	* M	CF/d	Oil: Initia		*Bbl/d
Gas: Ini F T	itial open flow		CF/d sts	Oil: Initia	l open flow	

10-31-12

Date

WR-35 Rev (5-01) Page 2 of 2  WELL: PHL4AHS (406153)
Were core samples taken? Yes No X Were cuttings caught during drilling? Yes X No
Were Electrical Mechanical ,X or Geophysical logs recorded on this well?
were Electrical wechanical, or Geophysical logs recorded on this went.
NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING,
PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND
BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.
PERFORATED INTERVALS, FRACTURING, OR STIMULATING: 7/5/2012 FRACED STAGE 1/22. PERFED MARCELLUS @ 14407'-14524' W/ 48 SHOTS. SAND 346,660#, AVG PSI 7740, AVG RATE 77.3.
7/6/2012 FRACED STAGE 1/22. PERFED MARCELLUS @ 14107-14524 W/ 48 SHOTS. SAND 346,660#, AVG PSI 7/40, AVG RATE 77.4.
7/7/2012 FRACED STAGE 2/22. PERFED MARCELLUS @ 13814'-14064' W/ 36 SHOTS. SAND 230,920#, AVG PSI 8628, AVG RATE 63.0.
7/7/2012 FRACED STAGE 4/22. PERFED MARCELLUS @ 13514-13766' W/ 36 SHOTS. SAND 343,540#, AVG PSI 7865, AVG RATE 75.6.
7/8/2012 FRACED STAGE 5/22. PERFED MARCELLUS @ 13214'-13466' W/ 36 SHOTS. SAND 346,504#, AVG PSI 8313, AVG RATE 84.0.
7/9/2012 FRACED STAGE 6/22. PERFED MARCELLUS @ 12914'-13166' W/ 36 SHOTS. SAND 350,140#, AVG PSI 8641, AVG RATE 72.6.
7/15/2012 FRACED STAGE 7/22. PERFED MARCELLUS @ 12614'-12866' W/ 36 SHOTS. SAND 278,600#, AVG PSI 8585, AVG RATE 69.0.
7/16/2012 FRACED STAGE 8/22. PERFED MARCELLUS @ 12314'-12565' W/ 36 SHOTS. SAND 349,880#, AVG PSI 8596, AVG RATE 85.1.
7/17/2012 FRACED STAGE 9/22. PERFED MARCELLUS @ 12014'-12266' W/ 36 SHOTS. SAND 260,840#, AVG PSI 8107, AVG RATE 67.5.
7/18/2012 FRACED STAGE 10/22. PERFED MARCELLUS @ 11714'-11965' W/ 36 SHOTS. SAND 346,440#, AVG PSI 8182, AVG RATE 73.0.
7/19/2012 FRACED STAGE 11/22. PERFED MARCELLUS @ 11306'-11656' W/ 36 SHOTS. SAND 412,960#, AVG PSI 8520, AVG RATE 84.0.
7/19/2012 FRACED STAGE 12/22. PERFED MARCELLUS @ 10806'-10923' W/ 40 SHOTS. SAND 357,960#, AVG PSI 8505, AVG RATE 78.5.
7/20/2012 FRACED STAGE 13/22. PERFED MARCELLUS @ 10515'-10766' W/ 36 SHOTS. SAND 345,340#, AVG PSI 8516, AVG RATE 96.0.
7/20/2012 FRACED STAGE 14/22. PERFED MARCELLUS @ 10215'-10466' W/ 36 SHOTS. SAND 350,400#, AVG PSI 8640, AVG RATE 99.0.
7/20/2012 FRACED STAGE 15/22. PERFED MARCELLUS @ 9915'-10166' W/ 36 SHOTS. SAND 354,680#, AVG PSI 8579, AVG RATE 96.8.
7/20/2012 FRACED STAGE 16/22. PERFED MARCELLUS @ 9614-9865' W/ 36 SHOTS. SAND 348,780#, AVG PSI 8523, AVG RATE 95.0.
7/21/2012 FRACED STAGE 17/22. PERFED MARCELLUS @ 9315-9567' W/ 36 SHOTS. SAND 347,440#, AVG PSI 8331, AVG RATE 99.8.
7/21/2012 FRACED STAGE 18/22. PERFED MARCELLUS @ 9014-9265' W/ 36 SHOTS. SAND 352,090#, AVG PSI 8686, AVG RATE 100.5.
7/21/2012 FRACED STAGE 19/22. PERFED MARCELLUS @ 8714-8965' W/ 36 SHOTS. SAND 346,360#, AVG PSI 8690, AVG RATE 98.7.
7/22/2012 FRACED STAGE 20/22. PERFED MARCELLUS @ 8414-8665' W/ 36 SHOTS. SAND 347,340#, AVG PSI 8717, AVG RATE 97.9.
7/22/2012 FRACED STAGE 21/22. PERFED MARCELLUS @ 8115'-8365' W/ 36 SHOTS. SAND 362,600#, AVG PSI 8483, AVG RATE 90.0.
7/22/2012 FRACED STAGE 22/22. PERFED MARCELLUS @ 7814-8065' W/ 36 SHOTS. SAND 344,620#, AVG PSI 8630, AVG RATE 87.5.
FORMATIONS ENCOUNTERED:
WT

Fill	0	40	Surface Rock	40	120	Sand&Shale	120	385	Sand	385	525
Sand&Shale	525	565	Shale	565	1905	RedRock Sand	1905	1965	RedRock	1965	2065
Shale	2065	2090	Sand&Shale	2090	2100	Shale Sand	2100	2120	Sandy Shale	2120	2180
RedRock	2180	2230	Sandy Shale	2230	2265	Shale	2265	2300	Sandy Shale	2300	2700
Shale	2700	4300	Sandy Shale	4300	5550	Shale	5550	7756			

	GAMMA RAY/		
	FORMATION		
#PHL4AHS (406153)	TOPS		47-001-03247H
	TOP	BASE	
HOLE NOT LOGGED UNTIL KICKOFF POINT			
BURKETT	7362	7395	
TULLY	7395	7468	
LTD	14605		
FORMATION TVD AT SURFACE LOCATION			
HAMILTON	7468	7756	
MARCELLUS	7756		

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	8-10-2012	· YF
API#:	47-069-00094	71

Farm name: William Rodgers OHI 3H	Operator Well No.: 833681				
LOCATION: Elevation: 1270'	Quadrangle: Valley Grove				
District: Liberty	County: Ohio	1			
Latitude: 9000' Feet South of 40 Deg.	07 Min	1. 30 Se	C.		
Longitude 8620' Feet West of 80 Deg.	30 Mir	n. <u>00</u> Se	c.		
Company: Chesapeake Appalachia, L.L.C.					
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Oklahoma City, OK 73154-0496	20"	120'	120'	Driven	
Agent: Eric Gillespie	13 3/8"	738'	738'	773 Cu. Ft.	
Inspector: Bill Hendershot & Derek Haught	9 5/8"	2145'	2145'	887 Cu. Ft.	
Date Permit Issued: 8-30-2011	5 1/2"	14966'	14966'	3896 Cu. Ft.	
Date Well Work Commenced: 12-4-2011					
Date Well Work Completed: 5-16-2012					
Verbal Plugging:					
Date Permission granted on:					
Rotary Cable Rig					
Total Vertical Depth (ft): 6580' (cement plug 5643'-6543')					
Total Measured Depth (ft): 14966'					
Fresh Water Depth (ft.): 79', 300'					
Salt Water Depth (ft.): 1189'	_				
Is coal being mined in area (N/Y)? Y					
Coal Depths (ft.): 664'					
Void(s) encountered (N/Y) Depth(s) N					
Gas: Initial open flowMCF/d Oil: Initial open fl	zone depth (ft) lowE	6,856'-14,833' Bbl/d	lata on separate s	sheet)	
Final open flow 1,817* MCF/d Final open flow		bl/d *Calculated	BP As 11	en e	
Time of open flow between initial and final tests 67 Static rock Pressure 4,215* psig (surface pressure) af	<del></del>	S *Calculated		Control of the second of the s	
Static fock Pressure 1995 psig (surface pressure) at	1100	413	្រវិធី	La of Child State	
Second producing formation Pay zon				AUG 8 0 2012	
Gas: Initial open flow MCF/d Oil: Initial open flow		Bbl/d	. m. 4 1 E		
Final open flowMCF/d Final open flowMcF/d Final open flowmain final tests		bl/d s		Coperanent of	
Static rock Pressure psig (surface pressure) af			Rome & Sept and	SERBALLERAS COM	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Mallene Williams
Signature

Were core samples taken? YesNo_X	Were cuttings caught during drilling? YesNo_X
Were Electrical, Mechanical or Geophysical logs recorded on open hole logs run from 0-6580' MD; LWD GR from 5815-14966' MD.	this well? If yes, please list GR, neutron, density, and resistivity
FRACTURING OR STIMULATING, PHYSICAL CHAN	OWING: 1). DETAILS OF PERFORATED INTERVALS, NGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATICS AND BOTTOMS OF ALL FORMATIONS, INCLUDING SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
(See Attached)	
Plug Back Details Including Plug Type and Depth(s): Ceme	ent plug @ 5643' - 6543'
	Depth / Bottom Depth
Surface:	
(See Attached)	
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AUG 30 2012

## PERFORATION RECORD ATTACHMENT

Well Number and Name: 833681 William Rodgers OHI 3H

PERFO	RATION RE	CORD		STIMULATION RECORD								
	Interval Perforated		Interval Perforated					F	luid		ing Agent	Average
Date	From	То	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection		
4/12/2012	14,418	14,833	5/6/2012	14,418	14,833	Slk wtr	10,042	Sand	495,940	80.0		
5/6/2012	13,732	14,322	5/8/2012	13,732	14,322	Slk wtr	13,838	Sand	662,480	80.0		
5/8/2012	13,044	13,634	5/8/2012	13,044	13,634	Sik wtr	12,610	Sand	663,180	77.0		
5/8/2012	12,357	12,946	5/8/2012	12,357	12,946	Slk wtr	12,528	Sand	665,000	77.0		
5/9/2012	11,665	12,256	5/12/2012	11,665	12,256	Slk wtr	12,306	Sand	666,820	80.0		
5/12/2012	10,982	11,571	5/12/2012	10,982	11,571	Slk wtr	13,390	Sand	663,420	79.0		
5/12/2012	10,294	10,887	5/13/2012	10,294	10,887	Sik wtr	12,673	Sand	663,240	80.0		
5/13/2012	9,606	10,195	5/13/2012	9,606	10,195	Slk wtr	12,284	Sand	663,400	80.0		
5/13/2012	8,919	9,508	5/13/2012	8,919	9,508	Slk wtr	12,005	Sand	663,620	80.0		
5/13/2012	8,231	8,820	5/15/2012	8,231	8,820	Slk wtr	12,567	Sand	663,560	79.0		
5/15/2012	7,543	8,132	5/15/2012	7,543	8,132	Slk wtr	11,742	Sand	665,720	79.0		
5/15/2012	6,856	7,445	5/16/2012	6,856	7,445	Sik wtr	11,718	Sand	664,800	79.0		
						<b></b>				<del> </del>		
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			<b>]</b>				L		<u> </u>			

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AUG 30 2012

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## **VERTICAL PILOT HOLE**

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## LATERAL SIDETRACK WELLBORE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)	_
LS/SH	0	0	580	580	
SS/LS	580	580	660	660	
PITTSBURG COAL	660	660	670	670	
LS/SH/SS	670	670	760	760	
SS	760	760	1030	1030	
SH/SS	1030	1030	1180	1180	
SS	1180	1180	1780	1780	
BIG INJUN (SS)	1780	1780	1988	1988	
SHALE	2031	2031	6347	6336	
GENESEO (SH)	6347	6336	6365	6353	
TULLY (LS)	6365	6353	6400	6385	en e
HAMILTON (SH)	6400	6385	6564	6506	The second secon
MARCELLUS (SH)	6564	6506			
TD OF LATERAL			14966	6429	AUG 3 0 2012

WW Department of for

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	8-10-2012	×F
API#:	47-069-00095	<del>"</del>

Farm name: William Rodgers OHI 8H	Operator Wel	l No.: 834660			
LOCATION: Elevation: 1270'	Quadrangle: Valley Grove				
District: Liberty  Latitude: 9000' Feet South of 40 Deg.  Longitude 6630' Feet West of 80 Deg.		ı. <u>30</u> Se			
Company: Chesapeake Appalachia, L.L.C.	·			<del></del>	
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Oklahoma City, OK 73154-0496	13 3/8"	714'	714'	718 Cu. Ft.	
Agent: Eric Gillespie	9 5/8"	2143'	2143'	1083 Cu. Ft.	
Inspector: Bill Hendershot & Derek Haught	5 1/2"	15843'	15843'	4064 Cu. Ft.	
Date Permit Issued: 11-16-20111					
Date Well Work Commenced: 12-14-2011					
Date Well Work Completed: 5-7-2012					
Verbal Plugging:					
Date Permission granted on:					
Rotary Cable Rig					
Total Vertical Depth (ft): 6666'					
Total Measured Depth (ft): 15844'					
Fresh Water Depth (ft.): 79', 300'					
Salt Water Depth (ft.): 1189'					
Is coal being mined in area (N/Y)? Y					
Coal Depths (ft.): 664'					
Void(s) encountered (N/Y) Depth(s) N					
OPEN FLOW DATA (If more than two producing formation	zone depth (ft) lowB w138Bl Hours	6,714'-15,710' Bbl/d bl/d s *Calculated			
			\$ 1. 	o o o o o o o o o o o o o o o o o o o	
Second producing formation Pay zo.  Gas: Initial open flow MCF/d Oil: Initial open flow		Bbl/d		2	
Final open flow MCF/d Final open flow		bl/d	AUG 3 0 2012		
Time of open flow between initial and final tests	Hour		gyW?		
Static rock Pressurepsig (surface pressure) at	fterHou	ırs	1	er mij i se massisise at disk ko	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Mahlor (vileians)
Signature

8-27-2014 Date

Were core samples taken? YesNo	Were o	cuttings caught during	drilling? Yes	No_^
Were Electrical, Mechanical or Geophysical logs recomunicous FROM 0-15,844' MD	orded on this well? If	yes, please list GR M	WD from 5,957'-	15,844' MD
NOTE: IN THE AREA BELOW PUT THE FRACTURING OR STIMULATING, PHYSICA DETAILED GEOLOGICAL RECORD OF TH COAL ENCOUNTERED BY THE WELLBORE	L CHANGE, ETC. IE TOPS AND BO	2). THE WELL LOC OTTOMS OF ALL	WHICH IS A SY FORMATIONS, 1	STEMATIC
Perforated Intervals, Fracturing, or Stimulating:				
See Attached)				
		<u> </u>		
Plug Back Details Including Plug Type and Depth(s)	:			
Formations Encountered: Surface:	Top Depth	/	Bottom I	<u>Depth</u>
See Attached)				
	•			
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AUG 3 0 2012

## PERFORATION RECORD ATTACHMENT

Well Number and Name: 834660 William Rodgers OHI 8H

PERFO	RATION RE	CORD			S	TIMULATIO	ON RECORD			
	Interval P	erforated				FI	uid	Proppi	ing Agent	Average
Date	From	To	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
4/9/2012	15,154	15,710	5/6/2012	15,154	15,710	Sik wtr	11,878	Sand	640,840	80.0
5/6/2012	14,506	15,076	5/6/2012	14,506	15,076	Slk wtr	16,632	Sand	645,060	79.7
5/7/2012	13,856	14,427	5/7/2012	13,856	14,427	Sik wtr	12,613	Sand	642,800	80.0
5/7/2012	13,207	13,777	5/7/2012	13,207	13,777	Sik wtr	11,711	Sand	642,880	80.0
5/8/2012	12,558	13,128	5/10/2012	12,558	13,128	Slk wtr	11,915	Sand	642,360	80.0
5/10/2012	11,909	12,479	5/10/2012	11,909	12,479	Sik wtr	11,889	Sand	641,820	80.0
5/10/2012	11,257	11,830	5/10/2012	11,257	11,830	Slk wtr	12,124	Sand	643,320	80.0
5/10/2012	10,610	11,178	5/11/2012	10,610	11,178	Slk wtr	13,251	Sand	641,640	80.0
5/11/2012	9,961	10,531	5/11/2012	9,961	10,531	Slk wtr	11,828	Sand	643,560	80.0
5/11/2012	9,316	9,882	5/14/2012	9,316	9,882	Sik wtr	11,923	Sand	643,560	78.0
5/14/2012	8,662	9,232	5/14/2012	8,662	9,232	Sik wtr	11,298	Sand	642,460	80.0
5/14/2012	8,013	8,583	5/16/2012	8,013	8,583	Slk wtr	11,708	Sand	639,860	80.0
5/16/2012	7,364	7,934	5/16/2012	7,364	7,934	Sik wtr	11,426	Sand	645,160	80.0
5/16/2012	6,714	7,285	5/17/2012	6,714	7,285	Slk wtr	11,376	Sand	650,180	79.0
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AUG 3 0 2012

SVVDSSTATEMOS Entirended for a on

## LATERAL SIDETRACK WELLBORE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SH	0	0	580	580
SS/LS	580	580	660	660
PITTSBURG COAL	660	660	670	670
LS/SH/SS	670	670	760	760
SS	760	760	1030	1030
SH/SS	1030	1030	1180	1180
SS	1180	1180	1780	1780
BIG INJUN (SS)	1780	1780	1988	1988
SHALE	2031	2031	6346	6331
GENESEO (SH)	6346	6331	6371	6351
TULLY (LS)	6371	6351	6418	6391
HAMILTON (SH)	6418	6391	6578	6501
MARCELLUS (SH)	6578	6501		
TD OF LATERAL			15844	6666

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Ship of Calibration

AUG 3 0 2012

WWWDaperament of Earth Immunication 1871 from

# State of West Virginia Department of Environmental Protection Office of Oil and Gas

DATE:	8-22-2012	- <b>V</b> f
API #:	47-069-00100	

Well Operator's Report of Well Work

District: Tridelphia  Latitude: 400' Feet South of 40 Deg. 0	Quadrangle:	ı, <sup>00</sup> Sec		Cement fill up Cu. Ft.
Latitude: 400' Feet South of 40 Deg. Company: Chesapeake Appalachia, L.L.C.  Company: P.O. Box 18496  Oklahoma City, OK 73154-0496	05 Min 35 Min Casing & Tubing 20" 13 3/8"	Used in drilling 126'	Left in well	up Cu. Ft.
Latitude: 400' Feet South of 40 Deg. Company: Chesapeake Appalachia, L.L.C.  Company: P.O. Box 18496  Oklahoma City, OK 73154-0496	05 Min 35 Min Casing & Tubing 20" 13 3/8"	Used in drilling 126'	Left in well	up Cu. Ft.
Longitude 12940' Feet West of 80 Deg. 3  Company: Chesapeake Appalachia, L.L.C.  Address: P.O. Box 18496  Oklahoma City, OK 73154-0496	Casing & Tubing 20" 13 3/8"	Used in drilling	Left in well	up Cu. Ft.
Address: P.O. Box 18496 Oklahoma City, OK 73154-0496	Tubing 20" 13 3/8"	drilling 126'		up Cu. Ft.
Oklahoma City, OK 73154-0496	Tubing 20" 13 3/8"	drilling 126'		up Cu. Ft.
D : C'' :	13 3/8"	<del></del>	126'	Duta and
Agent: Eric Gillespie	<del></del>	739'		Driven
	0.5/9"	1	739'	729 Cu. Ft.
Inspector: Bill Hendershot	9 3/0	2295'	2295'	1021 Cu. Ft.
Date Permit Issued: 11-16-2011	5 1/2"	13947'	13947	2851 Cu. Ft.
Date Well Work Commenced: 3-23-2012				
Date Well Work Completed: 6-5-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 6537'(cernent plug@ 5663' - 6512')				
Total Measured Depth (ft): 13950'				_
Fresh Water Depth (ft.): 82', 350'				
Salt Water Depth (ft.): 1520'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 683'				
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay z  Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow	zone depth (ft) lowB vBI	6,950'-13,814' Bbl/d bl/d	lata on separate s	iheet)
Time of open flow between initial and final tests			Part of the second	· 伊斯斯 [2]
Static rock Pressurepsig (surface pressure) aft			Salos etc.	
Second producing formation Pay zor		Bbl/d	AUG 28	2012
Gas: Initial open flowMCF/d Oil: Initial open flowMCF/d Final open flowMCF/d Final open flow		1.1.1		
Time of open flow between initial and final tests		<b>c</b>	WVDener	
Static rock Pressurepsig (surface pressure) aft		ırs E	هد کارد ده وی نبیج و خوامو گلی نبیدی و داخت و داده و داده داد	in the second se

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Jallen Willian 12
Signature

Were core samples taken? YesNo_N	We	re cuttings caught during dril	ling? Yes Y No
Were Electrical, Mechanical or Geophysical logs reco	orded on this well?	If yes, please list GR, neutr	ron, density, and resistivity
NOTE: IN THE AREA BELOW PUT THE FRACTURING OR STIMULATING, PHYSICA DETAILED GEOLOGICAL RECORD OF THE COAL ENCOUNTERED BY THE WELLBORE	L CHANGE, ETCHE TOPS AND	C. 2). THE WELL LOG W BOTTOMS OF ALL FOI	HICH IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:			
(See Attached)			
-			
Plug Back Details Including Plug Type and Depth(s):	Cement plug	@ 5663' - 6512'	
Formations Encountered: Surface:	Top Depth	/	Bottom Depth
(See Attached)	<u> </u>		
			4. - 1. (1. (2. (-1.))
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## PERFORATION RECORD ATTACHMENT

Well Number and Name: 833806 Deborah Craig OHI 3H

PERFO	PRATION RE	CORD				STIMULAT	<b>ION RECOR</b>	D		
	Interval P	erforated				F	luid	Ргорр	ing Agent	Average
Date	From	To	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
5/20/2012	13,271	13,814	6/1/2012	13,271	13,814	Sik wtr	11,450	Sand	629,800	83
6/1/2012	12,646	13,182	6/1/2012	12,646	13,182	Slk wtr	12,275	Sand	630,780	85
6/1/2012	12,012	12,550	6/2/2012	12,012	12,550	Sik wtr	11,468	Sand	630,640	84
6/2/2012	11,375	11,918	6/2/2012	11,375		Sik wtr	11,695	Sand	621,800	82
6/2/2012	10,743	11,286	6/2/2012	10,743	11,286	Slk wtr	11,631	Sand	631,300	84
6/2/2012	10,110	10,654	6/3/2012	10,110	10,654	Sik wtr	11,642	Sand	631,380	85
6/3/2012	9,478	10,021	6/3/2012	9,478	10,021	Sik wtr	11,189	Sand	630,580	86
6/3/2012	8,851	9,389	6/4/2012	8,851	9,389	Slk wtr	12,703	Sand	629,080	85
6/4/2012	8,219	8,757	6/4/2012	8,219	8,757	Sik wtr	10,963	Sand	630,980	86
6/4/2012	7,587	8,125	6/4/2012	7,587	8,125	Slk wtr	11,341	Sand	630,920	85
6/5/2012	6,950	7,493	6/5/2012	6,950	7,493	Sik wtr	11,004	Sand	646,780	85
			<del> </del>	<del></del>			<b></b>			

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# LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 6537 ft TVD @ 6990 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS	0	0	683	683
PITTSBURG COAL	683	683	690	690
LS	690	690	840	840
SS	840	840	990	990
SS/SH	990	990	1770	1770
BIG LIME (LS)	1770	1770	1820	1820
BIG INJUN (SS)	1820	1820	2057	2057
SHALE	2057	2057	6446	6344
GENESEO (SH)	6446	6344	6474	6362
TULLY (LS)	6474	6362	6528	6396
HAMILTON (SH)	6528	6396	6759	6502
MARCELLUS (SH)	6759	6502		
TD OF LATERAL			13950	6443

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WR-35 Rev (8-10)

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	5/11/11	_
API#:	47-7700105	W

Farm name: Messinger Limited Partner	Operator Well No.: Terra Alta South 7513			
LOCATION: Elevation: 1882	Quadrangle: _	Aurora		
District: Union	County: Presto			
Latitude: 9280 Feet South of 39 Deg. 3				
Longitude 9670 Feet West of 79 Deg.	Min.	.00 Sec.		
Company:	<del></del>			
Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Columbia Gas Transmission 1700 MacCortila Ave SE Charleston, WV 26326-1273	11-3/4	97	97	31 sx
Agent: Paul Amick	8-5/8	980	980	190 sx
Inspector: Sam Ward	4-1/2	5464	5464	102 sx
Date Permit Issued: 11/3/10				
Date Well Work Commenced: 7/1/10				
Date Well Work Completed: 4/20/11				
Verbal Plugging: NA			and the second s	
Date Permission granted on: NA			RECEIVE	
Rotary Y Cable Rig Y		Off	ice of Oll	x Gas
Total Vertical Depth (ft): no telemetry			DEC 04 2	112
Total Measured Depth (ft): 5539			טבט -	712
Fresh Water Depth (ft.): none reported			/ Departm	ent of
Salt Water Depth (ft.): none reported		Enviro	nmental	Protection
Is coal being mined in area (N/Y)? N		LIMIC	111101110	
Coal Depths (ft.): none reported				
Void(s) encountered (N/Y) Depth(s) none rptd				
OPEN FLOW DATA (If more than two producing formation Producing formation Chert / Oriskany commingled Pay 2	ns please includence depth (ft) 5		a on separate sh	eet)
Gas: Initial open flow NA MCF/d Oil: Initial open flo				
Final open flow 2300 MCF/d Final open flow		Vd		
Time of open flow between initial and final tests NA	Hours			
Static rock Pressure 1460 psig (surface pressure) aft	er 24 Hou	rs		
n I studio Romad	- J4- (0)			
Second producing formation Pay zor  Gas: Initial open flow MCF/d Oil: Initial open flow	ne depth (ft)			
Gas: minar open nowwicr/u On: minar open no	υwD(	n a		

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Hours

Signature

Final open flow MCF/d Final open flow

Static rock Pressure \_\_\_\_\_psig (surface pressure) after \_\_\_\_\_Hours

Time of open flow between initial and final tests\_

Were core samples taken? YesNo_X	Were cuttings caught during drilling? Yes	_No_NA
Were $\frac{Y}{Y/N}$ Electrical, $\frac{N}{Y/N}$ Mechanical, $\frac{N}{Y/N}$	or Geophysical logs recorded on this well?	
FRACTURING OR STIMULATING, PHYSIC	HE FOLLOWING: 1). DETAILS OF PERFORATED CAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SIE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLIMING SURFACE TO TOTAL DEPTH.	YSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:		
Pre-existing perforations: 4990 - 91 ft (sq	z); 5169 - 89; 5303 - 07; 5376 - 94	
New perforations: 4/16/11 - reperforated	5303 - 07 ft during permitted rework	
Acid Stim: 2000 gals HCl acid, 75 bbls FV	N, Avg BH rate = 1.1 BPM, ATP=2600 psig	
	· · · · · · · · · · · · · · · · · · ·	
Formations Encountered: Surface:	Top Depth / Bottom	<u>Depth</u>
Note that this is an existing storage well d	rilled in 1962. During rework, no additional borehole	was drilled.
	PECEIVE	n .
	Office of Oil	& Gas
	DEC 0 4 20	112
	WV Departm Environmental (	ent of Protection

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	10-30-2012	A)	
API#:	47-069-00124	ال	

Farm name: Melvin Kahle OHI 3H		Opera	Operator Well No.: 834929				
LOCATION: Elevation: 1280'		Quadr	angle: Wheeling	) WV			
District: Triadelphia		Count	y: Ohio				
Latitude: 90'	Feet South of 40	Deg. 05	Min. 00	Sec.			
Longitude 4180'	Feet West of 80	Deg. 37	Min. 30	Sec.			

Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	20"	110'	110'	269 Cu. Ft.
Agent: Eric Gillespie	13 3/8"	649'	649'	634 Cu. Ft.
Inspector: Bill Hendershot	9 5/8"	2116'	2116'	926 Cu. Ft.
Date Permit Issued: 5-23-2012	5 1/2"	12750'	12750'	2672 Cu. Ft.
Date Well Work Commenced: 6-10-2012				
Date Well Work Completed: 8-2-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 6306'				
Total Measured Depth (ft): 12752'				
Fresh Water Depth (ft.): 155'				
Salt Water Depth (ft.): 1100'				<u> </u>
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 597' (VOID)				
Void(s) encountered (N/Y) Depth(s) Y 607'				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet) Pay zone depth (ft) 6,700-12,611' Producing formation Marcellus MCF/d Oil: Initial open flow\_\_\_\_\_ Gas: Initial open flow Bbl/d Final open flow Not Tested MCF/d Final open flow \_\_\_\_\_ Bbl/d Time of open flow between initial and final tests Static rock Pressure \_\_\_\_\_psig (surface pressure) after \_\_\_\_\_Hours Pay zone depth (ft) Second producing formation Gas: Initial open flow\_\_\_\_MCF/d Oil: Initial open flow\_\_\_\_\_MCF/d Final open flow\_\_\_\_\_MCF/d Final open flow\_\_\_\_\_ Bbl/d Bbl/d Time of open flow between initial and final tests\_ Static rock Pressure psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, believe that the information is true, accurate, and complete.

Marline Williams
Signature

Were core samples taken? Yes	No_X	Were cuttir	ngs caught during drill	ing? Yes	_ No_X
Were Electrical, Mechanical or Geoph					
NOTE: IN THE AREA BELOVER FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECOUNTERED BY THE	W PUT THE FONG, PHYSICAL CORD OF THE T	OLLOWING: 1). I HANGE, ETC. 2). T FOPS AND BOTTO	DETAILS OF PERI THE WELL LOG WI DMS OF ALL FOR	FORATED II	NTERVALS,
Perforated Intervals, Fracturing, or Sti	imulating:				
(See attached)					
Plug Back Details Including Plug Typ	pe and Depth(s):				
Formations Encountered: Surface:	Τ	op Depth	. /	Bottom I	<u>)epth</u>
(See attached)					

• , •

## PERFORATION RECORD ATTACHMENT

Well Number and Name: 834929 Melvin Kahle OHI 3H

PERFO	PRATION RE	CORD	STIMULATION RECORD							
	Interval P	erforated				F	luid	Proppi	ing Agent	Average
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
7/21/2012	12,020	12,611	7/27/2012	12,020	12,611	Sik wtr	10,941	Sand	663,840	80
7/28/2012	11,611	11,942	7/28/2012	11,611	11,942	Sik wtr	6,925	Sand	400,620	80
7/29/2012	11,202	11,533	7/29/2012	11,202	11,533	Sik wtr	7,524	Sand	402,380	79.6
7/29/2012	10,792	11,124	7/29/2012	10,792	11,124	Slk wtr	6,740	Sand	403,160	79.9
7/29/2012	10,383	10,714	7/29/2012	10,383	10,714	Slk wtr	7,132	Sand	402,240	80.3
7/30/2012	9,974	10,305	7/30/2012	9,974	10,305	Slk wtr	8,512	Sand	402,680	72.1
7/30/2012	9,565	9,896	7/31/2012	9,565	9,896	Slk wtr	6,771	Sand	404,160	79.5
7/31/2012	9,155	9,487	7/31/2012	9,155	9,487	Slk wtr	10,140	Sand	399,120	80
7/31/2012	8,746	9,077	7/31/2012	8,746	9,077	Slk wtr	7,109	Sand	404,000	80
8/1/2012	8,337	8,668	8/1/2012	8,337	8,668	Sik wtr	7,159	Sand	400,260	79.8
8/1/2012	7,928	8,259	8/1/2012	7,928	8,259	Slk wtr	6,855	Sand	400,300	79
8/1/2012	7,518	7,850	8/1/2012	7,518	7,850	Sik wtr	6,907	Sand	398,080	80
8/2/2012	7,109	7,440	8/2/2012	7,109	7,440	Sik wtr	7,086	Sand	403,680	79.5
8/3/2012	6,700	7,031	8/2/2012	6,700	7,031	Slk wtr	6,835	Sand	396,940	79.3
								1		

# LATERAL WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 6306 ft TVD @ 6883 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS	0	0	597	597
PITTSBURG COAL (VOID)	597	597	609	609
SH/LS	609	609	750	750
SS/SH	750	750	880	880
REDBEDS	880	880	900	900
SHALE	900	900	1040	1040
SS	1040	1040	1590	1590
BIG INJUN (SS)	1590	1590	1970	1970
SHALE	1970	1970	6165	6118
GENESEO (SH)	6165	6118	6190	6135
TULLY (LS)	6190	6135	6264	6180
HAMILTON (SH)	6264	6180	6495	6273
MARCELLUS (SH)	6495	6273		
TD OF LATERAL			12752	6226

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4-5-2012	1
API#:	47-097-03514	U

Farm name: Arthur Chidester 1H	Operator Well No.: 626748  Quadrangle: Rock Cave				
LOCATION: Elevation: 1900'					
District: Banks	County: Upst	nur			
Latitude: 11.600' Feet South of 38 Deg.	Min	n. 00 Se	c.		
Longitude 14,750' Feet West of 80 Deg	<u>. 17 Mir</u>	n. <u>30</u> Se	c.		
Company: Chesapeake Appalachia, L.L.C.					
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Oklahoma City, OK 73154-0496	13 3/8"	600'	600'	673 Cu. Ft.	
Agent: Eric Gillespie	9 5/8"	1926'	1926'	5052 Cu. Ft.	
Inspector: Bill Hendershot	7"	7356'	7356'	915 Cu. Ft.	
Date Permit Issued: 6-11-2009	4 1/2"	10646'	10646'	477 Cu. Ft.	
Date Well Work Commenced: 12-7-2009					
Date Well Work Completed: 10-25-2010					
Verbal Plugging:					
Date Permission granted on:					
Rotary Cable Rig					
Total Vertical Depth (ft): 7136'					
Total Measured Depth (ft): 10646'					
Fresh Water Depth (ft.): 499'					
Salt Water Depth (ft.): None					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): 499'-501', 999'					
Void(s) encountered (N/Y) Depth(s) N					
OPEN FLOW DATA (If more than two producing formation Marcellus Pay Gas: Initial open flow MCF/d Oil: Initial open Final open flow 2.245* MCF/d Final open flow	zone depth (ft)		lata on separate s	sheet)	
Time of open flow between initial and final tests 42		's *Calculated			
Static rock Pressure 3.194* psig (surface pressure) a	afterHo	urs		i Gi. ŝi Gac	
Second producing formation Pay 2	one depth (ft)_		ΔliG	3 0 2012	
Gas: Initial open flow MCF/d Oil: Initial open		3bl/d			
Final open flow MCF/d Final open flor Time of open flow between initial and final tests		sbl/d 's .		latinent of	
Static rock Pressure psig (surface pressure) a			il. Life of the state of the state	CHARLES TO COMME	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlone Williams
Signature

7-29-2012 Date

Were core samples taken? YesNo	, X Were cuttings	caught during drilling? Yes X No
Were Electrical, Mechanical or Geophysica Resistivity, Nuclear, Sonic, and Borehole Image in the verti	.l logs recorded on this well? If yes, pl cal and curve, MWD GR in the lateral.	ease list
FRACTURING OR STIMULATING, F	PHYSICAL CHANGE, ETC. 2). THE DOOF THE TOPS AND BOTTON	TAILS OF PERFORATED INTERVALS, E WELL LOG WHICH IS A SYSTEMATIC AS OF ALL FORMATIONS, INCLUDING OTAL DEPTH.
Perforated Intervals, Fracturing, or Stimula	ting:	
(See Attached)		
Plug Back Details Including Plug Type and	Depth(s):	
Formations Encountered: Surface:	Top Depth	/ Bottom Depth
Formations on attached document.		
		A 60 2 0 5 1 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5

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## PERFORATION RECORD ATTACHMENT

Well Number and Name: 626748 Arthur Chidester 1H

PERFO	RATION RE	CORD			S1	IMULATIO	N RECOR	D		
	Interval Pe	erforated				Fle	uid		ng Agent	Average
Date	From	To	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection
8/7/2010	10213	10455	10/16/2010	10213	10455	Slk wtr	8165	Sand	303325	84
10/16/2010	9913	10155	10/16/2010	9913	10155	Slk wtr	7979	Sand	305123	82
10/16/2010	9613	9855	10/17/2010	9613	9855	Slk wtr	7932	Sand	302240	82
10/17/2010	9313	9555	10/18/2010	9313	9555	Slk wtr	7537	Sand	314749	85
10/18/2010	9013	9255	10/19/2010	9013	9255	Slk wtr	7360	Sand	305980	86
10/19/2010	8773	8955	10/20/2010	8773	8955	Sik wtr	6736	Sand	250646	91
10/21/2010	8473	8715	10/21/2010	8473	8715	Slk wtr	7384	Sand	301000	86
10/21/2010	8173	8415	10/22/2010	8173	8415	Slk wtr	7444	Sand	306900	89
10/23/2010	7873	8115	10/24/2010	7873	8115	Slk wtr	7137	Sand	297000	91
10/24/2010	7573	7815	10/24/2010	7573	7815	Sik wtr	7107	Sand	303066	91
10/24/2010	7273	7515	10/25/2010	7273	7515	Slk wtr	7302	Sand	320300	91
		_								
		- · · · · · · · · · · · · · · · · · · ·		-						

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## LATERAL WELLBORE

Maximum TVD of wellbore: 7136 ft TVD @ 8797 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SS/SHALE	0	0	1476	1476
LS	1476	1476	1714	1714
SS	1714	1714	1917	1917
SHALE	1917	1917	6889	6890
GENESEO	6899	6890	6951	6935
TULLY	6951	6935	6969	6950
HAMILTON	6969	6950	7086	7035
MARCELLUS	7086	7035	10646	7097
TD	10646	7097		0

Date: API# November 15, 2010

47-097-03683

### State of West Virginia **Division of Environmental Protection** Section of Oil and Gas Well Operator's Report of Well Work

Farm Name:

**Edward Gower 8H** 

Operator Well No.:

County:

LOCATION

Elevation: 1594' Quadrangle:

831386

District:

Warren

Latitude:

10670 ft

39° 126 Century Upshur

Longitude:

6620 ft

80°

South of

West of

30" 029 30"

Company: Chesapeake Appalachia, L.L.C.

P.O. Box 18496

OKC, OK 73154-0496

Agent: Eric Gillespie Inspector: Bill Hatfield

Date Permit Issued: 10/15/2009 Date Well work commenced: 3/3/2010 Date Well Work completed: 9/28/2010

Verbal Plugging Permission

Granted on / /

Rotary ⊠ Cable ☐ Rig

Total Depth (ft): 12466 TVD (ft): 7700'

Fresh Water Depth (ft): 425' Salt Water Depth (ft.):NA

Is coal being mined in area (Yes No 🖾)

Coal Depths (ft): none

Was this well logged and plugged back?

Yes No if yes depth cement plug set

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill-Up Cu.Ft.
20"	40'	40'	Driven
13 3/8"	529'	529'	CTS
9 5/8"	2084'	2084'	CTS
5 1/2"	12,466'	12,466'	As needed
			:

### **Open Flow Data**

1<sup>st</sup> Producing Formation

Pay Zone Depth 7,998 ft to 12,320 ft

Gas: Initial Open Flow Final Open Flow

2,439 Mcf/day N/A Mcf/day

Initial Open Flow Oil: Final Open Flow

bbl/day bbl/day

Time of Open Flow between Initial and Final Tests

In Line

Static Rock Pressure

3,465 psig after N/A

hours

hours

2<sup>nd</sup> Producing Formation

Gas: Initial Open Flow

N/A Mcf/day

Pay Zone Depth Initial Open Flow Oil: Final Open Flow

bbl/day bbl/day

Time of Open Flow between Initial and Final Tests Static Rock Pressure

Final Open Flow

N/A Mcf/day

hours

N/A psig after

hours

3<sup>rd</sup> Producing Formation

Pay Zone Depth ft to

ft

ft to

ft

Initial Open Flow Gas: Final Open Flow

N/A Mcf/day N/A Mcf/day Oil: Initial Open Flow

Final Open Flow hours

Static Rock Pressure

Time of Open Flow between Initial and Final Tests N/A psig after

hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OF STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Chesapeake Energy Well No.: 831386

# **Perforated Intervals**

1st Stage	Marcellus	50	holes from	11,998 ft to	12,320 ft
2 <sup>nd</sup> Stage	Marcellus	50	holes from	11,598 ft to	11,920 ft
3 <sup>rd</sup> Stage	Marcellus	50	holes from	11,198 ft to	11,520 ft
4th Stage	Marcellus	50	holes from	10,798 ft to	11,120 ft
5 <sup>th</sup> Stage	Marcellus	50	holes from	10,394 ft to	10,720 ft
6 <sup>th</sup> Stage	Marcellus	50	holes from	9,998 ft to	10,320 ft
7 <sup>th</sup> Stage	Marcellus	50	holes from	9,598 ft to	9,920 ft
8th Stage	Marcellus	50	holes from	9,198 ft to	9,520 ft
9th Stage	Marcellus	50	holes from	8,798 ft to	9,120 ft
10 <sup>th</sup> Stage	Marcellus	50	holes from	8,398 ft to	8,716 ft
11th Stage	Marcellus	50	holes from	7,998 ft to	8,313 ft

# Fracturing / Stimulation

1 <sup>st</sup> Stage	Ty	oe of Treatment Slickwater			
	Total Acid 5,000 Gal of 15		Breakdown Pro	essure 7,039 psi	
	Average Rate 85 scf/min	or bpm	ATP 7,845 psi MTP 8,577 psi		
	Total Fluid 10,239 bbl	Total Nitrogen 0 scf	Total Sand 124	,426 lb of 100 mesh	
			Total Sand 205	5,144 lb of 30/50	
	ISIP 4,950 psi	5 min 4,700 psi			
2 <sup>nd</sup> Stage	•	Type of Treatment Slickw			
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pro	essure 6,270 psi	
	Average Rate 93 scf/min	or bpm 🛛		MTP 9,456 psi	
	Total Fluid 8,586 bbl	Total Nitrogen 0 scf	Total Sand 120	0,500 lb of 100 mesh	
	·		Total Sand 228	3,500 lb of 30/50	
	ISIP 5,141 psi	5 min 4,580 psi	•		
3 <sup>rd</sup> Stage		Type of Treatment Slickw	ater		
<u> </u>	Total Acid 2,500 Gal of 15			essure 6,100 psi	
	Average Rate 90 scf/min	or bpm 🛛	ATP 7,879 psi	MTP 8,657 psi	
	Total Fluid 8,289 bbl	Total Nitrogen 0 scf		0,000 lb of 100 mesh	
				,500 lb of 30/50	
	ISIP 5,218 psi	5 min 4,806 psi	•		
4th Stage		Type of Treatment Slickw	vater		
	Total Acid 2,500 Gal of 15	Total Acid 2,500 Gal of 15% HCl			
	Average Rate 96 scf/min	or bpm 🛛	ATP 7,233 psi   MTP 8,562 psi		
	Total Fluid 8,222 bbl	Total Nitrogen 0 scf	Total Sand 122	2,000 lb of 100 mesh	
			Total Sand 204	1,700 lb of 30/50	
	ISIP 5,029 psi	5 min 4,670 psi			
5 <sup>th</sup> Stage		Type of Treatment Slickw	/ater		
	Total Acid 2,500 Gal of 15	% HCl		essure 6,014 psi	
	Average Rate 85 scf/min	or bpm 🛛		MTP 8,300 psi	
	Total Fluid 9,924 bbl	Total Nitrogen 0 scf		1,200 lb of 100 mesh	
			Total Sand 280	0,600 lb of 30/50	
	ISIP 5,184 psi	5 min 4,678 psi			
6 <sup>th</sup> Stage		Type of Treatment Slicky			
	Total Acid 2,500 Gal of 15	% HCl		essure 6,423 psi	
	Average Rate 90 scf/min	or bpm 🛛		MTP 8,297 psi	
:	Total Fluid 8,476 bbl	Total Nitrogen 0 scf		1,400 lb of 100 mesh	
			Total Sand 279	0,000 lb of 30/50	
	ISIP 0 psi	5 min psi		<u></u>	

7 <sup>th</sup> Stage		Type of Treatment Slickw	vater		
	Total Acid 2,500 Gal of 15			essure 5,685 psi	
	Average Rate 99 scf/min	or bpm 🛛	ATP 7,572 psi	MTP 7,808 psi	
	Total Fluid 8,632 bbl	Total Nitrogen 0 scf	Total Sand 120	),116 lb of 100 mesh	
			Total Sand 264	1,922 lb of 30/50	
	ISIP 4,972 psi	5 min 4,972 psi			
8th Stage		Type of Treatment Slicky	vater		
	Total Acid 2,500 Gal of 15	% HCl		essure 7,672 psi	
	Average Rate 87 scf/min	or bpm 🛛	ATP 7,640 psi	MTP 8,363 psi	
	Total Fluid 8,415 bbl	Total Nitrogen 0 scf	Total Sand 121	,200 lb of 100 mesh	
			Total Sand 282	2,800 lb of 30/50	
	ISIP 5,302 psi	5 min 5,302 psi			
9 <sup>th</sup> Stage		Type of Treatment Slicky	vater		
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pro	essure 7,994 psi	
	Average Rate 84 scf/min	or bpm 🛛		MTP 8,725 psi	
	Total Fluid 8,519 bbl	Total Nitrogen 0 scf Total Sand 120		,000 lb of 100 mesh	
			Total Sand 282	2,600 lb of 30/50	
	ISIP 5,148 psi	5 min 5,148 psi			
10 <sup>th</sup> Stage		Type of Treatment Slicky			
	Total Acid 2,500 Gal of 15		Breakdown Pressure 6,422 psi		
	Average Rate 86 scf/min	or bpm 🛛 or bpm		MTP 8,341 psi	
	Total Fluid 8,502 bbl	Total Nitrogen 0 scf		1,440 lb of 100 mesh	
			Total Sand 29	1,000 lb of 30/50	
	ISIP 5,405 psi	5 min 5,405 psi			
11th Stage		Type of Treatment Slicky	vater		
	Total Acid 2,500 Gal of 15	% HCl		essure 6,121 psi	
	Average Rate 87 scf/min	or bpm 🛛		MTP 8,230 psi	
	Total Fluid 8,299 bbl	Total Nitrogen 0 scf		0,000 lb of 100 mesh	
			Total Sand 272	2,900 lb of 30/50	
	ISIP 5,426 psi	5 min 5,426 psi			

Well Log

Well Lug			
Formation Name	Тор	Bottom	Comments
SS/LS	0	600	All depths KBTVD
SHALE W/ SS	600	830	
SS/SH	830	1782	
BIG LIME	1782	1960	
BIG INJUN	1960	2020	
SHALE	2020	2160	
SS W/ SILTSTONE	2160	2340	
SHALE W/SS	2340	3260	
SHALE	3260	7490	
GENESEO	7490	7525	
TULLY	7525	7560	
HAMILTON	7560	7663	
MARCELLUS	7663		
TD		7701	

Signed:

CHESAPEAKE APPALACHIA, LLC

By: Marlene Williams, Regulatory Analyst II Date: 10-31-2012

# State of West Virginia

API No: 47-001-03248H Lease No: 70640; 70642; 070943; 070943

## Department of Environmental Protection Office of Oil and Gas

Date

The Designation of the Property Control	-	of Well Wo		II ADUG (AN	(185)		
arm Name: BENNETT, JEREMY & BR. E. DOLETTA BENNETT, E		_			)155 <i>)</i>	-	
LOCATION: Elevation: 1514'		Quadrangle: Philippi					
District: Pleasant		_ County	y: Barbour				
Latitude: 20,823 Feet South	n of: 39	Deg. 1	5 Min.	00 Sec.			
Longitude: 3,005 Feet Wes	t of: 80	Deg. 0	00 Min.	00 Sec.			
Company: CNX Gas Company LLC							
<u> </u>		Casing and	Used in	Left in well	Cement fill	]	
		Tubing	drilling		up Cu. Ft.		
Address: P.O. Box 1248						1	
Jane Lew, WV 26378						4	
Agent: Kent Wright				<u> </u>	ļ	4	
Inspector: Bryan Harris			<u> </u>			4	
Date Permit Issued: 06/30/2011			<u> </u>	ļ		4	
Date Well Work Commenced: 11/15		20"	40'	40'	Grouted In	4	
Date Well Work Completed: 07/25	2012				<u> </u>	4	
Verbal Plugging:		13 3/8"	611'	611'	400 sks	4	
Date Permission granted on:				20001		4	
Rotary Cable Rig X		9 5/8"	2023'	2023'	650 sks	┥	
Total Vertical Depth (feet): 7654'		7 4 10 11	150051	150251	2101 -1	┨	
Total Measured Depth (feet): 15266'		5 1/2"	15235'	15235'	3191 sks	1	
Fresh Water Depth (ft.): 50', 390'				-	<del>                                     </del>	$\dashv$	
Salt Water Depth (ft.): N/A			<del></del>			$\dashv$	
B com being miner in the company	<u>No</u>		<del>-</del>	<del> </del>	<del> </del>	+	
Coal Depths (ft.): N/A		<del></del>	<del></del>			┥	
Void(s) encountered (N/Y) Depth(s)				<u> </u>		_	
Producing formation MARCELLUS  Gas: Initial production 1920  Final open flow 2112  Time of open flow between initial	MC	TF/d sts	Oil: Initia	ne depth (ft) 7 al open flow al open flow	* Bbl/d * Bbl/d 8 Hours		
Initial Flowing Pressure 5150		psi	ig (surface pr	essure) after_	535.50 Hours		
Second Producing formation  Gas: Initial open flow  Final open flow  *	M	CF/d CF/d ts	Oil: Initia Fina	ne depth (ft) ll open flow	* Bra/d * Bra/d * Hayrs	OFFICE UT C	
Time of open flow between initial a		psi	g (surface pre	essure) after	* Hours	Ę	
Time of open flow between initial a Static rock Pressure  * **COMMUNICATION WITH PREVIOUS FOR	RMATIONS	psi	-	-	77	בֿ כ	
Time of open flow between initial a Static rock Pressure *  * COMMINGLED WITH PREVIOUS FOR Loggify under penalty of law that I have personally exa	MATIONS mined and am	psignal psigna	e information su	 bmitted on this do	cument and all	5 2 2	
Time of open flow between initial a Static rock Pressure  * **COMMUNICATION WITH PREVIOUS FOR	MATIONS mined and am	psignal psigna	e information su	 bmitted on this do	cument and all	שור מי מייי	

Signature

# WELL: PHL4BHS (406155)

Page 2 of	2											
Were core	e samples ta	ken?	Yes	No <u>X</u>	Wer	e cuttings	caught dur	ing dri	lling?	Yes <u>X</u>	No_	<del></del>
Were	Electrica	1	_Mechani	ical , <u>X</u>	or Geop	hysical lo	gs recorded	on thi	s well?			
NOTE: IN	THE AREA BI	ELOW F	UT THE FO	DLLOWING: 1	l). <b>DET</b> A	ILS OF PE	RFORATED II	NTERV.	als, frac	CTURING	OR ST	IMULATING,
<b>PHYSICAL</b>	CHANGE, ET	rc. 2). 1	THE WELL	LOG WHICH	IS A SYS	TEMATIC	DETAILED G	EOLOG	FICAL RE	CORD OF	THE T	OPS AND
BOTTOMS	OF ALL FOR	MATIO	NS, INCLUI	DING COAL E	NCOUNT	TERED BY	THE WELLBO	RE FR	OM SURF	ACE TO T	OTAL	DEPTH.
PERFOR	ATED INT	ERVAI	S. FRAC	TURING, O	R STIN	AULATIN	iG:					
7/13/2012				ARCELLUS @				D 346,10	0#, AVG P	SI 8311, AV	/GRA	ΓE 62.4.
7/13/2012	FRACED STA	GE 2/24	. PERFED N	ARCELLUS @	14804'-1	15046' W/ 40	SHOTS. SANI	D 288,84	10#, AVG P	SI 8588, AV	/GRA	ΓE 73.1.
7/13/2012				ARCELLUS @								
7/14/2012				ARCELLUS @								
7/14/2012				ARCELLUS @					•			
7/15/2012				ARCELLUS @				•				
7/15/2012				MARCELLUS @								
				MARCELLUS @								
7/15/2012				MARCELLUS @								
7/16/2012				MARCELLUS &								
7/17/2012												
7/18/2012				MARCELLUS								
7/19/2012				MARCELLUS								
7/20/2012				MARCELLUS								
7/23/2012				MARCELLUS				•				
7/23/2012				MARCELLUS								
7/23/2012				MARCELLUS								
7/23/2012				MARCELLUS								
7/24/2012				MARCELLUS								
7/25/2012				MARCELLUS								
7/24/2012				MARCELLUS								
7/24/2012				MARCELLUS								
7/24/2012				MARCELLUS								
7/25/2012				MARCELLUS								
7/25/2012	FRACED ST	AGE 24/	24. PERFED	MARCELLUS	@ 8117'-	8277' W/ 40	SHOTS. SAND	363,04	0#, AVG PS	SI 8683, AV	G RAT	E 85.5.
FORMA'	TIONS EN									20	_	505
Fill	0	40	Surface Rock		120	Sand&Shale	120	385	Sand	38		525
Sand&Shale	525	565	Shale	565	1905	RedRock San		1965	RedRock	. 19		2065
Shale	2065	2090	Sand&Shale	2090	2100	Shale Sand	2100	2120	Sandy Shak			2180
RedRock	2180	2230	Sandy Shale	2230	2265	Shale	2265	2300	Sandy Shale	e 23	00	2700
Shale	2700	4300	Sandy Shale	4300	5550	Shale	5550	7756				
		_			GAMMA							
					RAY/							
	1			E	ORMATIC	<u> </u>						
	#PHL4BH	S (40615!	5)		TOPS			4	7-001-03248	3H		
					TOP	BASE				_		
		TVD AT S	URFACE LOCA	TION	7000	7005						
	TULLY				7362 7395	7395				-		
	MARCELLUS				7756	1.700						
					+		<del></del>					

15254 7468

7756

HOLE NOT LOGGED UNTIL KICKOFF POINT
HAMILTON

WR-35 Rev (8-10) Page 1 of 2

# State of West Virginia

Department of Environmental Protection Office of Oil and Gas

DATE: NOV 0 6 2012

API No: 47-001-03249H Lease No: 070943; 70640; 70642; 070943; 071088



## Well Operator's Report of Well Work

OCATION: Elevation: 1514'			Quadrangle: Philippi					
District: Pleasant	County	County: Barbour						
	<u> </u>		00 Sec.					
Latitude: 21,261	Feet South of: 39 Feet West of: 80							
Longitude: 3,503	Deg0	Min	Sec.					
mpany: CNX Gas Compa	ny LLC	*						
		Casing and	Used in	Left in well	Cement fill			
		Tubing	drilling		up Cu. Ft.			
ddress: P.O. Box 1248								
Jane Lew, WV 263	378							
gent: Kent Wright								
spector: Bryan Harris	7/20/2011		<u> </u>					
ate Permit Issued: 06 ate Well Work Commenced:	5/30/2011 11/30/2011	20"	40'	40'	Grouted In			
ate Well Work Commenced:	07/27/2012	20	<del></del>					
erbal Plugging:		13 3/8"	606.97'	606.97'	415 sks			
ate Permission granted on:								
otary Cable	Rig X	9 5/8"	2027.2'	2027.2'	660 sks			
Court Con Michigan Con Control	7660'	5 1 1011	154611	15461'	3168 sks			
otal Measured Depth (feet):		5 1/2"	15461'	13401	3100 883			
resh Water Depth (ft.): 50', 3 alt Water Depth (ft.):	N/A		<del>                                     </del>					
coal being mined in area (N								
oal Depths (ft.): N/A				T -				
om nchme (re): MV		1						
oid(s) encountered (N/Y) De	pth(s)							
Producing formation MARG Gas: Initial production Final open flow	CELLUS 1488 MO		Oil: Initia Fina	ne depth (ft) _7 ll open flow ll open flow	* Bbl/d  * Bbl/d  11 Hours			
Producing formation MARC Gas: Initial production Final open flow Time of open flow Initial Flowing Pressure  Second Producing formation Gas: Initial open flow Final open flow Time of open flow Final open flow Final open flow Time of open flow Final open flow Time of open flow betw Static rock Pressure  COMMINGLED WITH PRESE  Tentify under penalty of law that I have	TELLUS  1488 MC  5184 MC  ween initial and final teles 4725  * M  * M  ween initial and final teles  VIOUS FORMATIONS personally examined and am	CF/d  CF/d  CF/d  its  psig  familiar with the	Oil: Initia Fina  (surface pre  Pay zone Oil: Initia Fina  (surface pre- information sub-	e depth (ft) l open flow essure) after l open flow l open flow l open flow ssure) after emitted on this doc	* Bbl/d * Bbl/d 11 Hour 672.50 Hour  * Bbl/d * Bbl/d * Hours * Hours * Hours			
PEN FLOW DATA  Producing formation MARG Gas: Initial production Final open flow Time of open flow bett Initial Flowing Pressure  Second Producing formation Gas: Initial open flow Final open flow Time of open flow bett  Static rock Pressure  COMMINGLED WITH PRESIDENT STATES OF THE PRESIDENT OF T	* M  * M  ween initial and final te  4725  * M  * M  ween initial and final tes  *  VIOUS FORMATIONS personally examined and am quiry of those individuals im	CF/d  CF/d  CF/d  its  psig  familiar with the	Oil: Initia Fina  (surface pre  Pay zone Oil: Initia Fina  (surface pre- information sub-	e depth (ft) l open flow essure) after l open flow l open flow l open flow ssure) after emitted on this doc	* Bbl/d  * Bbl/d  11 Hours  672.50 Hours  * Bbl/d  * Bbl/d  * Hours  * Hblrs  cument and all-			
PEN FLOW DATA  Producing formation MARG Gas: Initial production Final open flow Time of open flow bett Initial Flowing Pressure  Second Producing formation Gas: Initial open flow Final open flow Time of open flow Final open flow Time of open flow Time of open flow bett Static rock Pressure  COMMINGLED WITH PRESE  Triffy under penalty of law that I have	* M  * M  ween initial and final te  4725  * M  * M  ween initial and final tes  *  VIOUS FORMATIONS personally examined and am quiry of those individuals im	CF/d  CF/d  CF/d  its  psig  familiar with the	Oil: Initia Fina  g (surface pre  Pay zone Oil: Initia Fina  (surface presinformation subsible for obtaini	e depth (ft) l open flow essure) after l open flow l open flow l open flow ssure) after emitted on this doc	* Bbl/d  * Bbl/d  11 Hours  672.50 Hours  * Bel/d  * Bbl/d  * Hours  * Hours  tument and all-			

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PHI ACHS (406157)

Page 2 of 2	2			WELI	L: **		(400157)				
Were core	samples tak	en?	Yes No	<u> </u>	Wei	re cutting	s caught d	uring dı	rilling? Y	es <u>X</u> No	<del></del>
Were	_ Electrical		_Mechanical	, <u>X</u>	or Geo <sub>j</sub>	physical le	gs record	ed on th	is well?		
PHYSICAL (	CHANGE, ET	C. 2). 1	UT THE FOLL THE WELL LOONS, INCLUDING	G WHICH	IS A SY	STEMATIC	DETAILED	GEOLO	GICAL REC	ORD OF THE	
			S, FRACTU								
7/5/2012	FRACED STA	GE 1/23	. PERFED MAR	CELLUS @	15275'-	15376' W/ 48	SHOTS. SA	ND 267,9	00#, AVG PS	I 8628, AVG R	ATE 75.6.
7/6/2012	FRACED STA	GE 2/23	. PERFED MAR	CELLUS @	15022'-	15214' W/ 36	SHOTS. SA	ND 140,9	20#, AVG PS	I 8661, AVG R	ATE 70.0.
<i>7/7/</i> 2012	FRACED STA	GE 3/23	. PERFED MAR	CELLUS @	14722'-	14973' W/ 36	SHOTS. SA	ND 214,6	660#, AVG PS	I 8494, AVG R	ATE 55.0.
7/7/2012	FRACED STA	GE 4/23	. PERFED MAR	CELLUS @	14423'-	14675' W/ 48	SHOTS. SA	ND 209,8	20#, AVG PS	I 8371, AVG R	ATE 65.0.
7/8/2012	FRACED STA	GE 5/23	. PERFED MAR	CELLUS @	14121'-	14375' W/ 36	SHOTS. SA	ND 254,2	260#, AVG PS	I 8425, AVG R	ATE 50.2.
			. PERFED MAR								
7/15/2012	FRACED STA	GE 7/23	. PERFED MAR	CELLUS @	13523'-	13775' W/ 36	SHOTS. SA	AND 350,0	980#, AVG PS	I 8049, AVG R	ATE 61.9.
			. PERFED MAR								
			. PERFED MAR								
			3. PERFED MA								
			3. PERFED MA								
			3. PERFED MA								
			3. PERFED MA								
			3. PERFED MA								
			3. PERFED MA								
			3. PERFED MA								
			3. PERFED MA								
			3. PERFED MA								
7/27/2012	FRACED STA	GE 19/2	3. PERFED MA	RCELLUS (	<b>@</b> 9716'-	9967' W/ 36	SHOTS. SAI	ND 350,08	0#, AVG PSI	8641, AVG RA	ATE 88.0.
			3. PERFED MA					-	•		
7/27/2012	FRACED STA	GE 21/2	3. PERFED MA	RCELLUS (	@ 9118'-	9366' W/ 36	SHOTS. SAI	ND 354,10	00#, AVG PSI	8483, AVG RA	ATE 83.7.
<i>7/27/</i> 2012			3. PERFED MA					•	•	•	
<i>7/27/</i> 2012	FRACED STA	GE 23/2	3. PERFED MA	RCELLUS (	@ 8515'-	8766' W/ 36	SHOTS. SAI	ND 434,50	0#, AVG PSI	8500, AVG RA	ATE 95.6.
<b>FORMAT</b>	TONS ENC	DUNT	ERED:								
Fill	0	40	Surface Rock	40	120	Sand&Shale	120	385	Sand	385	525
Sand&Shale	525	565	Shale	565	1905	RedRock Sans	1 1905	1965	RedRock	1965	2065
Shale	2065	2090	Sand&Shale	2090	2100	Shale Sand	2100	2120	Sandy Shale	2120	2180 -
RedRock	2180	2230	Sandy Shale	2230	2265	Shale	2265	2300	Sandy Shale	2300	2700
Shale	2700	4300	Sandy Shale	4300	5550	Shale	5550	7756			
					<u>GAMMA</u>		-				
	-				BAY/						
				EC	PRMATIO	<u>IN</u>					
	#PHL4CHS	406157	)		<u>TOPS</u>			4	7-001-03249H	ĺ	
					TOP	BASE					
	FORMATION TO	/D AT SU	RFACE LOCATION		7005	7400					
	LTD '				7395 15499	7468					
		GED UN	TIL KICKOFF POINT								
	BURKETT				7362	7395					
	HAMILTON				7468	7756					
	MARCELLUS				7756			, ,		j	

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	11-5-2012	∽χf
API#:	47-009-00113	J

Farm name: John Good BRK 8H Operator Well No.: 834044 LOCATION: Elevation: 1145 Quadrangle: Bethany County: Brooke District: Buffalo Deg. 15 Latitude: 10910' Feet South of 40 Min. 00 Sec. Longitude 9510° Feet West of 80 Deg. 32 Min. 30 Sec. Chesapeake Appalachia, L.L.C. Company: Casing & Used in Left in well Cement fill P.O. Box 18496 up Cu. Ft. Address: **Tubing** drilling 125' 505 Cu. Ft. 20" 125' Oklahoma City, OK 73154-0496 Eric Gillespie 13 3/8" 345' 345' 392 Cu. Ft. Agent: **Inspector:** Bill Hendershot 1685' 1685' 769 Cu. Ft. 9 5/8" 9800' 9800' 2380 Cu. Ft. 5 1/2" Date Permit Issued: 1-18-2012 5-5-2012 Date Well Work Commenced: 8-12-2012 Date Well Work Completed: Verbal Plugging: Date Permission granted on: Rotary 🗸 Cable Rig Total Vertical Depth (ft): 5944' Total Measured Depth (ft): 9800' Fresh Water Depth (ft.): 300' 1200' Salt Water Depth (ft.): Is coal being mined in area (N/Y)? N Coal Depths (ft.): 288' Void(s) encountered (N/Y) Depth(s) N OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet) Pay zone depth (ft) 6.176'-9,660' Producing formation Marcellus Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d Final open flow Not Tested MCF/d Final open flow \_\_\_\_\_ Bbl/d Time of open flow between initial and final tests Hours Static rock Pressure psig (surface pressure) after Hours Pay zone depth (ft) Second producing formation MCF/d Oil: Initial open flow Bbl/d Gas: Initial open flow\_\_\_\_\_

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate, and complete.

\_\_\_Bbl/d Hours

Final open flow \_\_\_\_\_

Marlan Williams
Signature

Final open flow\_\_\_\_\_MCF/d

Time of open flow between initial and final tests

Static rock Pressure psig (surface pressure) after Hours

11-9-2013

1 1 2

Were core samples taken? YesN	lo <u>N</u> w	ere cuttings caught during d	Irilling? Yes Y	lo
Were Electrical, Mechanical or Geophysic	al logs recorded on this well	? If yes, please list LWD (	GR from 5850-9,80	00' MD.
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING, DETAILED GEOLOGICAL RECORCOAL ENCOUNTERED BY THE WE	PHYSICAL CHANGE, ET LD OF THE TOPS AND	rc. 2). The well log Bottoms of all f	WHICH IS A SYST	EMATIC
Perforated Intervals, Fracturing, or Stimul	ating:			
(See attached)				
				<del></del>
Plug Back Details Including Plug Type an	d Depth(s):			
Formations Encountered: Surface:	Top Depth		Bottom Depti	1
(See attached)				
			*****	
				<del></del>
	-			

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## PERFORATION RECORD ATTACHMENT

Well Number and Name: 834044 John Good JR. BRK 8H

PERFO	RATION RE					STIMULAT	ION RECOR	RD.			
	Interval Pe	erforated				Ê	luid	Propp	ing Agent	Average	
Date	From	То	Date	Interval	Treated	Type	Amount	Туре	Amount	Injection	
6/29/2012	9,141	9,660	8/6/2012	9,141	9,660	Slk wtr	19,076	Sand	1,039,200	80	
8/6/2012	8,847	9,085	8/7/2012	8,847	9,085	Sik wtr	9,903	Sand	541,620	80	
8/7/2012	8,550	8,791	8/8/2012	8,550	8,791	Slk wtr	13,462	Sand	538,100	72	
8/8/2012	8,253	8,494	8/9/2012	8,253	8,494	Sik wtr	10,042	Sand	545,280	80	
8/9/2012	7,956	8,197	8/9/2012	7,956	8,197	Sik wtr	9,857	Sand	540,480	80	
8/9/2012	7,659	7,900	8/9/2012	7,659	7,900	Sik wtr	10,168	Sand	542,340	80	
8/9/2012	7,362	7,603	8/10/2012	7,362	7,603	Sik wtr	10,147	Sand	543,660	80	
8/10/2012	7,065	7,306	8/10/2012	7,065	7,306	Slk wtr	9,976	Sand	540,980	80	
8/10/2012	6,768	7,009	8/11/2012	6,768	7,009	Slk wtr	9,956	Sand	544,920	80	
8/11/2012	6,472	6,713	8/11/2012	6,472	6,713	Slk wtr	9,740	Sand	541,660	80	
8/11/2012	6,176	6,417	8/12/2012	6,176	6,417	Slk wtr	9,704	Sand	535,620	80	

# LATERAL WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 5939 ft TVD @ 9720 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS/SH	0	0	288	288
PITTSBURG COAL	288	288	293	293.
LS	293	293	420	420
SS	420	420	450	450
LS/SS	450	450	650	650
LS/SS/SH	650	650	810	810
SS/SH	810	810	1300	1300
BIG LIME	1300	1300	1390	1390
BIG INJUN (SS)	1390	1390	1510	1510
SHALE	1510	1510	5727	5688
GENESEO (SH)	5727	5688	5744	5701
TULLY (LS)	5744	5701	5833	5763
HAMILTON (SH)	5833	5763	6030	5858
MARCELLUS (SH)	6030	5858		
TD OF LATERAL			9800	5944

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE: 2012-10-11 Amended ### 4701705957

Farm name: John R. Davies et al Operator Well No.: 513370 Quadrangle: West Union LOCATION: Elevation: 1180 District: Unknown County: Doddridge, WV Deg. Latitude: 39.27211 Feet South of Min. Sec. Longitude -80.77173 Feet West of Deg. Min. Sec. **EQT Production Company** Company: Casing & Used in Left in well Cement fill EOT Plaza, Suite 1700 Address: drilling up Cu. Ft. **Tubing** 625 Liberty Avenue, Pittsburgh, PA 15222 40 40 20 49.6 Agent: Cecil Ray 13 3/8 1,147 1,147 979.8 Inspector: David Scrange 9 5/8 3.192 3,192 1.363.53 Date Permit Issued: 2010-06-18 5 1/2 9.658 9.658 1,828.8 Date Well Work Commenced: 2010-07-16 2011-05-30 Date Well Work Completed: N/A Verbal Plugging: N/A Date Permission granted on: Rig 🗸 Rotary 🗸 Cable Total Vertical Depth (ft): 6,647.85 Total Measured Depth (ft): 9,656 Fresh Water Depth (ft.): FW @ 66,157,268,343 None Encountered Salt Water Depth (ft.): Is coal being mined in area (N/Y)? N Coal Depths (ft.): 60, 205, 403, 675 Void(s) encountered (N/Y) Depth(s) N OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet) Producing formation Marcellus Pay zone depth (ft) Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow 2,256 MCF/d Final open flow Bbl/d Time of open flow between initial and final tests Hours Static rock Pressure 2,368 psig (surface pressure) after \_\_\_\_ Hours Pay zone depth (ft) Second producing formation Bbl/d MCF/d Oil: Initial open flow\_\_\_\_\_ Gas: Initial open flow\_\_\_\_\_ Final open flow\_\_\_\_MCF/d Final open flow \_\_\_\_\_ Bbl/d Hours Time of open flow between initial and final tests Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours I certify under penalty of law that I have personally examined and am familiar with the information submitted on this documentand all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information The leve that the information is true, accurate, and complete.

Signature

Date

Were core samples taken? YesNo_X Were cuttings caught during drilling? YesNo_X
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Geophysical
NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:
See Attachment
<del>_</del>
Plug Back Details Including Plug Type and Depth(s): 3246Ft 104 Sacks Plugcem, 3030Ft 104 Sacks Plugcem
3177, Cast Iron Bridge Plug
Formations Encountered: Top Depth / Bottom Depth Surface:
Sand / 0 / 55 / 55 Shale / 55 / 60 / 5 Coal / 60 / 62 / 2 Sand / 62 / 100 / 38 Red Rock / 100 / 108 / 8
Shale / 108 / 205 / 97 — Coal / 205 / 210 / 5 — Sand / 210 / 240 / 30 — Red Rock / 240 / 250 / 10 — Red Rock / 250 / 265 / 15 —
Sand / 265 / 280 / 15 - Red Rock / 280 / 290 / 10 - Sand and Shale / 290 / 330 / 40 - Red Rock / 330 / 350 / 20
Sand and Shale / 350 / 403 / 53 Coal / 403 / 406 / 3 Sand and Shale / 406 / 675 / 269 Coal / 675 / 677 / 2
Sand and Shale / 677 / 983 / 306 - Shale / 750 / 840 / 90 - Red Rock / 840 / 860 / 20 - Sand / 860 / 1,070 / 210 -
Red Rock / 1,070 / 1,085 / 15 Sand / 1,085 / 3,222 / 2,137 - WARREN / 3,222.06 / 3,304.96 / 82.9 - SPEECHLEY / 3,304.96 / 3,988.6 / 683.64
BALLTOWN B / 3,988.6 / 4,175.98 / 187.38 BRADFORD / 4,175.98 / 4,450.42 / 274.44 RILEY / 4,450.42 / 4,887.17 / 436.75
BENSON / 4,887.17 / 5,140.73 / 253.56 - ALEXANDER / 5,140.73 / 6,249.28 / 1,108.55 - SONYEA / 6,249.28 / 6,483.95 / 234.67 -
MIDDLESEX / 6,483.95 / 6,536.19 / 52.24 GENESSEE / 6,536.19 / 6,613.69 / 77.5 GENESEO / 6,613.69 / 6,642.8 / 29.11
TULLY / 6,642.8 / 6,667.05 / 24.25 HAMILTON / 6,667.05 / 6,682.09 / 15.04 MARCELLUS BLK SHALE / 6,682.09 / 6,697.36 / 15.27

• •

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation	Frac Type		·	
1	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/1/2011	9393 - 9635		6,424.00	7,493.00	5 Min: 2628
					10 Min: 2496
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2417
95.10	9,077.00	3,122.00	0.9		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
407,407.00	9,903.00		2,000.00		
Stage	Formation	Frac Type			
2	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/1/2011	9093 - 9335		7,721.00	7,452.00	5 Min: 2825
					10 Min: 2669
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2574
97.20	8,630.00	3,323.00	0.93		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
398,724.00	9,974.00		2,000.00		
Stage	Formation	Frac Type			
3	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/1/2011	8793 - 9033		6,605.00	7,255.00	5 Min: 2768
					10 Min: 2600
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2505
99.60	8,938.00	3,291.00	0.93		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
409,790.00	9,908.00		2,000.00		

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation	Frac Type			
4	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/2/2011	8493 - 8733		6,774.00	6,690.00	5 Min: 2791
					10 Min: 2636
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2566
101.90	8,251.00	3,275.00	0.93		
Sand Proppant	Water-bbi	SCF N2	Acid-Gal		
404,230.00	9,934.00		2,000.00		
Stage	Formation	Frac Type			
5	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/2/2011	8193 - 8435		5,684.00	6,433.00	5 Min: 2918
					10 Min: 2758
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2659
100.60	7,761.00	3,388.00	0.94		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
399,941.00	10,024.00		2,000.00		
Stage	Formation	Frac Type		-	
6	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/4/2011	7893 - 8135		6,307.00	6,955.00	5 Min: 3194
					10 Min: 3031
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2935
100.30	8,277.00	3,879.00	1.02		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		

•

Summary	Treatment	Well	Attachment	Completion	EQT WR-35
			Frac Type	Formation	Stage
			Slickwater	MARCELLUS	7
SIP Detail	ATP Psi	BD Press	# of perfs	From / To	Date
5 Min: 2983	7,086.00	6,058.00		7593 - 7835	4/4/2011
40.54% . 0004					
10 Min: 2801 15 Min: 2695		Frac Gradient	ISIP	Max Press PSI	Avg Rate
,		0.96	3,482.00	8,927.00	100.20
		Asid Cal	COT NO	Water-bbl	Oand Doomnant
		Acid-Gal 2,000.00	SCF N2	9,790.00	<b>Sand Proppant</b> 395,550.00
		2,000.00			393,330.00
			Frac Type	Formation	Stage
			Slickwater	MARCELLUS	8
SIP Detail	ATP Psi	BD Press	# of perfs	From / To	Date
5 Min: 3002	6,555.00	6,883.00		7293 - 7533	4/4/2011
10 Min: 2844					
15 Min: 2748		Frac Gradient	ISIP	Max Press PSI	Avg Rate
		0.96	3,486.00	7,747.00	101.00
		Acid-Gal	SCF N2	Water-bbl	Sand Proppant
		2,000.00		9,650.00	401,293.00
			Euga Tuma	Formation	Stone
			Frac Type Slickwater	MARCELLUS	Stage 9
			CilcRivator	WAROLLEGO	3
	ATP Psi	BD Press	# of perfs	From / To	Date
5 Min: 2927	6,585.00	7,281.00		6993 - 7233	4/5/2011
10 Min: 2799					
15 Min: 2728		Frac Gradient	ISIP	Max Press PSI	Avg Rate
		0.94	3,368.00	7,862.00	98.82
		Acid-Gal	SCF N2	Water-bbl	Sand Proppant
		2,000.00		9,704.00	401,466.00

# Department of Environmental Protection

# Office of Oil and Gas

# Well Operator's Report of Well Work Kanawha County Parks and Recreation Da

Farm Name	•	Kanawha County Par	ks and Recreation	on	Date:	10/18/2012	
Operator W	ell No.:	Coonskin #1			– API #:	47-3906336	
LOCATIO	ON		• • • • • • • • • • • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·			
Elevation:	642		Quadrangle:		Big Chimney		
District:	Elk		County:		Kanawha		
Latitude:	38.386744	3	NAD 83				
Longitude:	81.560667	82	NAD 83				
	FORMATIO	N-		18 18 18 18 18 18 18 18 18 18 18 18 18 1			427
Company:	Reserve O	il and Gas, Inc.	Casing &	Used in	Left in	Cement ]	Fill up
Address:	929 Charle	eston Road	Tubing:	Drilling:	Well:	Cu. F	řt.
	Spencer, V	VV 25276	13 3/8"	17.00	17.00	cts	<u> </u>
Agent:	J. Scott Fre	eshwater	9 5/8"	336.30	336.30	cts	
Inspector:	Terry Urba	ın	7"	1607.95	1607.95	cts	}
Date Permit	Issued:	3/20/2012	4 1/2"	4391.35	4391.35	125 s	sks
Date Work	Commenced:	4/30/2012					
Date Work	Completed:	5/31/2012			·		
Verbal Plug	-						
_	ssion Granted:				·		
Rotary Rig:		CSi Rig #10					
Cable Rig:		<u> </u>					
-	cal Depth (FT):	4420	<del></del>	Total Me	easured Depth (F7	7): 4420	-
	r Depth (FT):	40			- '		
	Depth (FT):	N/A	<del></del>				
	g mined in area	(N/Y): No					
Coal Depth	_	210 to 215	 Void	(s) Encountere	ed (N/Y) / Depth(s	s): N/A	
	OW DATA			` · · · · · · · · · · · · · · · · · · ·			
Producing I	Formation:	Devonian Shale	Pay Zone Dep	th (FT):	292	25 to	4360
Gas			Oil	• •	-		
Initial Oper	n Flow:	18.2	Initial Open F.	low:	N/A		
Final Open		189	Final Open Flo		N/A		
_		initial and final tests:	·		72	20 Hours.	
Static Rock			face Pressure) after	r:	2	24 Hours.	
2nd Produc	ing Formation:		Pay Zone Dep			to	
Gas	<b>g</b>		Oil	` '			
Initial Oper	ı Flow:		Initial Open F.	low:			
Final Open			Final Open Flo				
-		initial and final tests:				Hours.	3
Static Rock			face Pressure) after	:		— Hours.	ပြွှ
Signed:		Just S. Kalin	A		10/18/	- /2012	6
B <sub>vr</sub>		J. Scott Freshwater	The Park	A 21/202		ate:	
By:	manaltu aflam sk-s 1	4		Oilaa	_		
and that have	penany or naw that i	I have personally examined and am hose individuals immediately response	neible for obtaining the	information I be	dieve that the informa	tion is true, accurate	
and that, base		nose marviduais minediately respo	instole for obtaining the	2 112	une morma	10 11 11 11 10 10 10 10 10 10 10 10 10	
and Complete.				1711			



#### Department of Environmental Protection

#### Office of Oil and Gas

#### Well Operator's Report of Well Work

#### Continued

Formation:	From	To		Wa	nter:
Sub	0	7	Depth:	Amount:	Ty
Rock	7	210	40	damp	freshwater
Coal Seam	210	215	n/a		saltwater
Sand & Shale	215	630			
Salt Sand	630	1210			
Sand & Shale	1210	1280			
Maxton	1280	1302			
Little Lime	1302	1345			
Big Lime	1345	1525		Gas C	hecks:
Injun	1525	1550	Depth:		Remarks:
Shale	1550	1820	1760	gas show	
Coffee Shale	1820	1845	3700	gas show	
Shale	1845	4420			
					·
				<u> </u>	
				Oil S	hows:
			Depth:	J	Remarks:
			n/a	drill pipe sho	wed crude oil
FRACTURING					
Perforations:			•		
Stage 1:					
Number of Perforations:	4	10	Totals		

Depth From (FT):

3770 N2 2,003,300 SCF

Depth To (FT):

4360 7 1/2% HCL Acid 1,500 Gallons

I-7L - Iron control Additive

Stage 2:

Number of Perforations:

Cla Chek LP - Permanent Clay Stabilizer 2 Gallons
40 Unihib-A - Low Temp Corrosion Inhibitor 1 1/2 Gallons
2925 3 3/4" #5 Frac Ball 1 Each

Depth From (FT):

 3 3/4" #5 Frac Ball
 1 Each

 1.3 S.G. 7/8" RCN Ball Sealers
 85 Each

Depth To (FT):

Perforation Size 0.39 Inches

were Core	Samples	ı aken (	(14/ Y ):	
-----------	---------	----------	-----------	--

No

3586

Were Cuttings Caught During Drilling (N/Y): Were Geophysical Logs Recorded on This Well (N/Y): No Yes

Electrical (N/Y):

Yes

Mechanical (N/Y):

Yes

5336

3 Gallons



# Department of Environmental Protection

#### Office of Oil and Gas

# Well Operator's Report of Well Work

		W	ell Ope	rator's Report	of Well W	ork M	√ Depart	ment of
Farm Name:		Flinner, David	•	1		W W		Protecui
Operator We	ell No.:	Copenhaver #1				API#:	47-3906338	
LOCATIO	N			1000			17 3700330	
Elevation:	920			Quadrangle:		Big Chimney		180 100 100 100 100 100 100 100 100 100
District:	Elk			County:		Kanawha		
Latitude:	38.453200	08		NAD 83		120120 11110		
Longitude:	81.548680	06		NAD 83				
WELL IN	FORMATIC	N					TO A STATE OF THE	
Company:	Reserve C	oil and Gas, Inc.		Casing &	Used in	Left in	Cement	Fill up
Address:		eston Road		Tubing:	Drilling:	Well:	Cu.	
	Spencer, V	WV 25276		13 3/8"	21.20	21.20	ct.	
Agent:	J. Scott Fr	eshwater		9 5/8"	294.85	294.85	ct	
Inspector:	Terry Urb	an		7"	1859.90	1859.90	ct	
Date Permit	Issued:	4/27/2012		4 1/2"	4630.35	4630.35	175	
Date Work C	ommenced:	5/20/2012				1050.55	173	383
Date Work C	ompleted:	6/13/2012				<del>                                     </del>		
Verbal Plugg	ing:							
Date Permiss	ion Granted:							
Rotary Rig:		CSi Rig #10						
Cable Rig:								
Total Vertica	l Depth (FT):	4674			Total Me	easured Depth (FT):	4674	
Fresh Water	Depth (FT):	66		_			1071	
Salt Water De	epth (FT):	1080		-				
Is coal being	mined in area	(N/Y): No		-				
Coal Depths	(FT):	N/A		- Void(s	) Encountere	d (N/Y) / Depth(s):	N/A	
OPEN FLO	OW DATA			1.87		= ( ) · = -p · · (e) ·		
Producing Fo	rmation:	Devonian Shale		Pay Zone Deptl	n (FT):	3120	to	4604
Gas				Oil			-	
Initial Open F	Flow:	21		Initial Open Flo	ow:	N/A		
Final Open F	low:	258		Final Open Flor	w:	N/A		
Time of open	flow between	initial and final tests:		-		576	Hours.	
Static Rock P	ressure:	502 PSIG	(Surface	Pressure) after:		24	Hours.	
2nd Producin	g Formation:			Pay Zone Depth	n (FT):		to	
Gas				Oil			N-	
Initial Open I	Flow:			Initial Open Flo	ow:			
Final Open F	low:			Final Open Flor				
Time of open	flow between	initial and final tests:		2		71	Hours.	$\mathcal{Z}$
Static Rock P	ressure:	O A PSIG	(Surface	Pressure) after:			Hours.	Ü
Signed:		Just S. Kit	hate	>		10/18/20	12_	∞
By:		J. Scott Freshw	vater			Date		
I certify under pe	nalty of law that I	have personally examined a	nd am fam	iliar with the inform	ation submitted	on this document and all	the attachments	

and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

#### Department of Environmental Protection

#### Office of Oil and Gas

# Well Operator's Report of Well Work

#### Continued

# **FORMATIONS**

Formation:	From	То
Sub	0	7
Rock	7	60
Sand/Shale	- 60	930
Salt Sand	930	1510
Maxton	1510	1534
Little Lime	1534	1585
Big Lime	1585	1747
Injun	1747	1776
Sand/Shale	1776	2050
Shale	2050	2150
Coffee Shale	2150	2160
Shale	2160	4674

	Wat	ter:
Depth:	Amount:	Type:
66	damp	fresh water
180	1/2" stream	fresh water
1080	soap on hole	salt water

	Gas Checks:
Depth:	Remarks:
2370	smell gas

	Oil Shows:
Depth:	Remarks:

# FRACTURING

Perforations:

Stimulation:

Stage 1:

Number of Perforations:

Remarks: Totals 40 2,002,900 scf N2 3968

Depth From (FT): Depth To (FT):

1500 gallons 7 1/2% HCL Acid 4604

3 gallons I-7L - Iron control Additive

Stage 2:

2 gallons Cla Chek LP - Permanent Clay Stabilizer

Number of Perforations:

1 1/2 gallons Unihib-G 40

Depth From (FT):

3120 1 3 3/4" #5 Frac Ball

Depth To (FT):

102 1.1 S.G. 7/8" RCN Ball Sealers 3912

Were Core Samples Taken (N/Y):

No

Were Cuttings Caught During Drilling (N/Y):

No

Were Geophysical Logs Recorded on This Well (N/Y):

Yes

Electrical (N/Y):

Yes

Mechanical (N/Y):

Yes

WR-35 Rev (9-11)

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	8-28-2012	4
API#:	47-051-01430	01

rm name: Michael Southworth 8H	Operator Wel	•		
OCATION: Elevation: 1180'	_ Quadrangle: _\	Valley Grove		
District: Sandhill	nall			
Latitude: 8820' Feet South of 40 Deg.				
Longitude 10500' Feet West of 80 Deg.	Min	. <u>00</u> Sec	<b>).</b>	
Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	20"	100'	100'	303 Cu. Ft.
Agent: Eric Gillespie	13 3/8"	800'	800'	875 Cu. Ft.
Inspector: David Scranage	9 5/8"	1980'	1980'	707 Cu. Ft.
Date Permit Issued: 1-13-2011	5 1/2"	14054'	14054'	3632 Cu. Ft.
Date Well Work Commenced: 2-20-2011				
Date Well Work Completed: 5-2-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 6486'(cement plug 5538')				
Total Measured Depth (ft): 14058'				
Fresh Water Depth (ft.): 300'				
Salt Water Depth (ft.): 950'				
Is coal being mined in area (N/Y)? Y				
Coal Depths (ft.): 743'				
Void(s) encountered (N/Y) Depth(s) Y 743'			<u> </u>	
Gas: Initial open flow MCF/d Oil: Initial open flow 1,684* MCF/d Final open flow Time of open flow between initial and final tests 32	zone depth (ft) flowB w104Bl Hours	6,755'-13,915' bl/d bl/d *Calculated		
Static rock Pressure 4,214*psig (surface pressure) a	ifterHou	ırs	R-30	The market of the man market.
Second producing formation Pay zo	one depth (ft)		-7ik.s	oi Châ Gas
Gas: Initial open flowMCF/d Oil: Initial open	flowB	bl/d		G 3 0 2012
Final open flow MCF/d Final open flo		bl/d		
Time of open flow between initial and final tests  Static rock Pressure psig (surface pressure) a				garing <b>il</b> a
Static rock Pressurepsig (surface pressure) a		•• •	german y St. 2 and 1 3 6 5 4 co.	watera.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlew (Sellians
Signature

8-29-2012 Date

Were core samples taken? YesNo	Were cuttings caug	ght during drilling? Yes No
Were Electrical, Mechanical or Geophysical log: Pilot hole: MWD GR, Resistivity, Nuclear, Spectral GR, Sonic, Bor	s recorded on this well? If yes, please the the second of	list
NOTE: IN THE AREA BELOW PUT FRACTURING OR STIMULATING, PHYS DETAILED GEOLOGICAL RECORD OF COAL ENCOUNTERED BY THE WELLBO	SICAL CHANGE, ETC. 2). THE WIFE THE TOPS AND BOTTOMS O	ELL LOG WHICH IS A SYSTEMATIC OF ALL FORMATIONS, INCLUDING
Perforated Intervals, Fracturing, or Stimulating:		
(See Attached)		
Display in the interest of the	41/2).	
Plug Back Details Including Plug Type and Dep		
Cement plug up to 5538 ft MD / 55	37 11 1 1 1 1	
Formations Encountered: Surface:	Top Depth /	Bottom Depth
(See Attached)		
		Son in soft soil said the
		Office of C.T.S. Class

AUG 30 2012

# PERFORATION RECORD ATTACHMENT

Well Number and Name: 832806 Michæl Southworth 8H

PERFO	RATION RE	CORD	STIMULATION RECORD							
	Interval P	erforated		Fluid Propping Agent		Fluid		ing Agent	Average	
Date	From	То	Date		Treated	Туре	Amount	Туре	Amount	Injection
4/18/2012	13,450	13,915	4/24/2012	13,450	13,915	Slk wtr	12,406	Sand	657,320	80
4/25/2012	12,790	13,352	4/25/2012	12,790	13,352	Slk wtr	12,092	Sand	658,640	77
4/25/2012	12,119	12,682	4/28/2012	12,119	12,682	Sik wtr	12,296	Sand	661,880	77
4/28/2012	11,449	12,011	4/28/2012	11,449	12,011	Sik wtr	12,040	Sand	660,080	80
4/28/2012	10,778	11,341	4/28/2012	10,778	11,339	Slk wtr	13,178	Sand	660,880	77
4/28/2012	10,108	10,670	4/29/2012	10,108	10,670	Slk wtr	12,199	Sand	659,840	78
4/30/2012	9,437	9,999	4/30/2012	9,437	9,999	Slk wtr	11,853	Sand	658,650	78
4/30/2012	8,766	9,329	4/30/2012	8,766	9,329	Sik wtr	12,062	Sand	657,280	78
4/30/2012	8,100	8,658	5/2/2012	8,100	8,658	Sik wtr	12,272	Sand	661,900	80
5/2/2012	7,425	7,988	5/2/2012	7,425	7,988	Sik wtr	12,556	Sand	659,820	76
5/2/2012	6,755	7,317	5/2/2012	6,755	7,317	Slk wtr	11,998	Sand	660,020	78
			<b> </b>							
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# **VERTICAL PILOT HOLE**

Formation/Lithology	Top Depth, Top Depti MD (ft) (ft)		Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SS	0	0	120	119
SS/SHALE	120	119	160	159
SS	160	159	220	219
SS/SHALE	220	219	280	279
SS	280	279	370	369
SS/LS	370	369	670	669
COAL	670	669	682	681
LS/SS	682	681	810	809
SS/SLTSTN	810	809	920	919
SS	920	919	1557	1556
MAXTON	1557	1556	1765	1764
BIG LIME	1765	1764	1839	1838
BIG INJUN	1839	1838	1965	1964
SS/SHALE	1965	1964	2070	2069
SHALE	2070	2069	6210	6209
GENESEO	6210	6209	6231	6230
TULLY	6231	6230	6263	6262
HAMILTON	6263	6262	6368	6367
MARCELLUS	6368	6367	6420	6419
ONONDAGA	6420	6419	6438	6437
PILOT HOLE TD	6438	6437		
PLUG BACK DEPTH	5538	5537		

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# **LATERAL WELLBORE**

**Maximum TVD of wellbore:** 

6486 ft TVD @ ft MD

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Formation/Lithology	Top Depth, ation/Lithology MD (ft)		Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)	
SHALE	5538	5538	6275	6214	

GENESEO	6275	6214	6308	6234
TULLY	6308	6234	6371	6268
HAMILTON	6371	6268	6615	6369
MARCELLUS	6615	6369	14054	6482
TD	14054	6482		0

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WR-35 Rev (9-11)

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	8-9-2012	1		
API #:	47-051-01500	0/		

TION: Elevation: 1270'	Quadrangle: _	Valley Grove	***************************************	<del></del>
District: Sand Hill	County: Marsi	hall		
Latitude: 8820' Feet South of 40 Deg.	02 Min	. <u>30</u> Sec		<del></del>
Longitude 10500' Feet West of 80 Deg.	35 Min	. <u>00</u> Sec	<b>;</b> ,	
Company: Chesapeake Appalachia, L.L.C.				
Address: P.O. Box 18496	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Oklahoma City, OK 73154-0496	20"	100'	100'	Driven
Agent: Eric Gillespie	13 3/8"	803'	803'	881 Cu. Ft.
Inspector: Bill Hendershot & Derek Haught	9 5/8"	2120'	2120'	887 Cu. Ft.
Date Permit Issued: 11-16-2011	5 1/2"	13307'	13307'	3407 Cu. Ft.
Date Well Work Commenced: 3-10-2012				
Date Well Work Completed: 5-3-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 6403'				
Total Measured Depth (ft): 13307'				
Fresh Water Depth (ft.): 300'				·
Salt Water Depth (ft.): 950'				
Is coal being mined in area (N/Y)? Y				
Coal Depths (ft.): 753'				
Void(s) encountered (N/Y) Depth(s) Y 753'	,			
EN FLOW DATA (If more than two producing formation	ma mlagga imalu	do additional d	oto on concrete c	haat)
• •	one depth (ft)		ata on separate s	incery
Gas: Initial open flowMCF/d Oil: Initial open fl		bl/d		
Final open flow 2.763* MCF/d Final open flow		ol/d		
Time of open flow between initial and final tests 108		*Calculated	F-1	<sup>रास</sup> असेह कुम्म गांच <i>हा (चन्</i> या हर)
Static rock Pressure 4.139* psig (surface pressure) aft	terHou	rs	\$	and the second s
Second producing formation Pay zon		<del></del>	·/[1]	Capich & Gal
Gas: Initial open flow MCF/d Oil: Initial open fl		bl/d		AUG 3 0 2012
Final open flow MCF/d Final open flow	/Bt	ol/d		The second secon

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Marlew (vellians
Signature

8-29-2012, Date

Were core samples taken? Yes No	Were cuttings caugh	nt during drilling? Yes X No
Were Electrical, Mechanical or Geophysica MWD GR in the lateral.	ll logs recorded on this well? If yes, please li	st
FRACTURING OR STIMULATING, P DETAILED GEOLOGICAL RECORI	UT THE FOLLOWING: 1). DETAIL PHYSICAL CHANGE, ETC. 2). THE WE D OF THE TOPS AND BOTTOMS OF LLBORE FROM SURFACE TO TOTAL	LL LOG WHICH IS A SYSTEMATIC F ALL FORMATIONS, INCLUDING
Perforated Intervals, Fracturing, or Stimular	ting:	
(See Attached)		·
Plug Back Details Including Plug Type and	Denth(s):	
Trug Back Betails including Frag Type and	Dopun(s).	
Formations Encountered: Surface:	Top Depth /	Bottom Depth
See attached		
		and the second s
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#### PERFORATION RECORD ATTACHMENT

Well Number and Name: 834166 Michael Southworth MSH 3H

PERFO	RATION RE	CORD	STIMULATION RECORD							
	Interval P	erforated		Fluid		Propping Agent		Average		
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
4/19/2012	12,742	13,176	4/25/2012	12,742	13,176	Slk wtr	11,781	Sand	660,420	78.0
4/26/2012	12,100	12,677	4/26/2012	12,100	12,677	Slk wtr	12,336	Sand	661,240	80.0
4/26/2012	11,429	12,006	4/26/2012	11,429	12,006	Slk wtr	12,203	Sand	581,140	77.0
4/26/2012	10,758	11,335	4/27/2012	10,758	11,335	Slk wtr	12,270	Sand	659,360	78.0
4/27/2012	10,087	10,664	4/29/2012	10,087	10,664	Slk wtr	12,927	Sand	661,520	79.0
4/29/2012	9,416	9,993	4/29/2012	9,416	9,993	Sik wtr	11,607	Sand	661,100	78.0
4/29/2012	8,745	9,323	5/1/2012	8,745	9,323	Sik wtr	12,186	Sand	659,780	80.0
5/1/2012	8,074	8,652	5/1/2012	8,074	8,652	Sik wtr	12,164	Sand	659,880	80.0
5/1/2012	7,403	7,981	5/3/2012	7,403	7,981	Slk wtr	12,163	Sand	657,960	80.0
5/3/2012	6,732	7,310	5/3/2012	6,732	7,310	Slk wtr	11,794	Sand	661,340	80.0
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# LATERAL WELLBORE

Maximum TVD of wellbore: 6403 ft TVD @ 6766 ft MD

Formation/Lithology	Top Depth, Top Depth, TVD MD (ft) (ft)		Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SH/SS	0	0	100	100
SS/SLTSTN	100	100	430	430
SS	430	430	524	524
SS/SLTSTN	524	524	690	690
SLTSTN/SS	690	690	724	724
COAL	724	724	738	738
SLTSTN	738	738	824	824
SS/SLTSTN	824	824	844	844
SS	844	844	912	912
SS/SLTSTN	912	912	1420	1420
COAL	1420	1420	1448	1448
SS	1448	1448	1725	1725
BIG INJUN	1725	1725	1975	1975
SH/SS	1975	1975	2050	2050
SS/SH	2050	2050	2080	2080
SS	2080	2080	2320	2320
SH .	2320	2320	3042	3042
SS	3042	3042	3102	3102
SS/SLTSTN	3102	3102	3400	3400
SH/SS	3400	3400	4606	4606
SH/SLTSTN	4606	4606	4706	4706
SH/SS	4706	4706	5628	5628
SH	5628	5628	6248	6214
GENESEO	6248	6214	6320	6266
TULLY	6320	6266	6390	6311
HAMILTON	6390	6311	6474	6351
MARCELLUS	6474	6351	13307	6334
TD	13307	6334		0

